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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/511,140

10/14/2004

David Collingwood

121504

1974

25944

7590

08/13/2007

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EXAMINER

GATES, ERIC ANDREW

ART UNIT

PAPER NUMBER

3722

MAIL DATE

DELIVERY MODE

08/13/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/511,140

Applicant(s)

COLLINGWOOD ET AL.

Examiner

Eric A. Gates

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 23-41, 43-48, 50 and 51 is/are pending in the application.
- 4a) Of the above claim(s) 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23, 24, 27-30, 33-41, 43-48, 50 and 51 is/are rejected.
- 7) ☒ Claim(s) 26, 31 and 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This office action is in response to Applicant's amendment filed on 10 April 2007.

#### ***Election/Restrictions***

2. Applicant's election with traverse of Species III in the reply filed on 10 April 2007 is acknowledged. The traversal is on the ground(s) that "the search and examination of the entire application could be made without serious burden". This is not found persuasive because the limitations presented in withdrawn claim 25 would require a different text search than that required for the elected claims.

The requirement is still deemed proper and is therefore made FINAL.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 23, 24, 27, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Hornung et al. (U.S. Patent 4,722,021).
5. Regarding claim 23, Hornung et al. discloses a machine tool comprising a stationary part (part housing motor 5) and a spindle 8 rotatable relative to the stationary part, the spindle having a shank receiving area 6 for releasably accepting the shank of a

cutter or other machine tool accessory (not labeled, see figure 1), and comprising a first electrical link (link from motor 5 to bearing 7) between the stationary part and the spindle, and a portion (portion inside chuck 6 where the end of the tool shank contacts the chuck) of a second electrical link (link from bearing 7 through the chuck 6 and the cutting tool, to the metal element 16) at the shank receiving area in electrical connection with the first link (from metal element 16 to the metal sink 17, the ground 2, and back to the first link) for providing in use a disconnectable electrical link between the spindle and the shank, wherein the portion of the second link is in the form of at least one electrical contact (contact formed when the cutting tool touches the metal element 16).

6. Regarding claim 24, Hornung et al. discloses wherein the first link and the portion of the second link are arranged to transmit signals (see column 4, lines 8-26).

7. Regarding claim 27, Hornung et al. discloses wherein the portion of the second link at the shank receiving area includes any electrical link between the shank and the spindle.

8. Regarding claim 28, Hornung et al. discloses wherein the electrical link comprises a disconnectable physical contact between the spindle and the shank (the contact can be disconnected by removing the tool shank from the chuck).

9. Claims 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Noda (U.S. Patent 4,890,306).

10. Regarding claim 33, Noda discloses a machine tool shank 31 for releasably mounting a machine tool cutter 15 or other machine tool accessory to the spindle 11 of

a machine tool comprising a portion of an electrical link (from battery 36 to control circuit 34) in the form of at least one electrical contact, wherein, in use, the machine tool shank 31 is supplied with power (internally supplied with power by the battery 36) via the at least one electrical contact.

11. Regarding claim 34, Noda discloses wherein the at least one electrical contact is in the form of a conductive element (the battery terminal) and a resilient support (as the claim does not require any level of resiliency, the battery housing meets this limitation, as the housing must display some degree of resiliency) supporting the conductive element.

12. Regarding claim 35, Noda discloses wherein the shank 31 comprises an end (right end in figure 2) closest to a location for attachment of the machine tool cutter 15 or other machine tool accessory (this end is used for attachment of the machine tool cutter 15 to the spindle 11) and an end distal from the location (left end in figure 2), wherein the said at least one contact is closer to the distal end than to the end for the said attachment (see figure 2).

13. Regarding claim 36, Noda discloses wherein the said at least one contact is in the third of the shank closest to the distal end of the shank (see figure 2).

14. Claim 37 is rejected under 35 U.S.C. 102(b) as being anticipated by Noda (U.S. Patent 4,890,306).

15. Regarding claim 37, Noda discloses a machine tool accessory 34 having a shank 31 for releasably mounting the accessory to the spindle 11 of a machine tool comprising

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a portion of an electrical link (from battery 36 to control circuit 34) in the form of at least one electrical contact, the accessory being suppliable with power via the at least one electrical contact.

16. Claim 38 is rejected under 35 U.S.C. 102(b) as being anticipated by Noda (U.S. Patent 4,890,306).

17. Regarding claim 38, Noda discloses a measurement probe 33 having a shank 31 for releasably mounting the measurement probe to the spindle 11 of a machine tool comprising a portion of an electrical link in the form of at least one electrical contact (from sensor 33 to amplifier 341), the measurement probe having a signal path V, via the at least one electrical contact, wherein the measurement probe comprises a non-contact probe.

18. Regarding claim 23, Hornung et al. discloses a machine tool comprising a stationary part (part housing motor 5) and a spindle 8 rotatable relative to the stationary part, the spindle having a shank receiving area 6 for releasably accepting the shank of a cutter or other machine tool accessory (not labeled, see figure 1), and comprising a first electrical link (link from motor 5 to bearing 7) between the stationary part and the spindle, and a portion (portion inside chuck 6 where the end of the tool shank contacts the chuck) of a second electrical link (link from bearing 7 through the chuck 6 and the cutting tool, to the metal element 16) at the shank receiving area in electrical connection with the first link (from metal element 16 to the metal sink 17, the ground 2, and back to

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the first link) for providing in use a disconnectable electrical link between the spindle and the shank, wherein the portion of the second link is in the form of at least one electrical contact (contact formed when the cutting tool touches the metal element 16).

19. Claims 39-41 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Hornung et al. (U.S. Patent 4,722,021).

20. Regarding claim 39, Hornung et al. discloses a machine tool comprising a stationary part (part housing motor 5), a spindle 8 rotatable relative to the stationary part having a shank receiving area (for receiving chuck 6), a shank 6 releasably acceptable to the shank receiving area, and a machine tool accessory (drill bit, not labeled, see figure 1) attached to the shank, and comprising a first electrical link (link from motor 5 to bearing 7) between the stationary part and the spindle and a second electrical link (link from bearing 7 through the chuck 6 to the cutting tool) at the shank receiving area being in electrical communication with the first link (from metal element 16 to the metal sink 17, the ground 2, and back to the first link) for providing in use a disconnectable electrical link between the spindle and the shank for providing power or a signal for the accessory, wherein the second link is formed as two portions, one portion 7 being mounted to the spindle 8 the other portion (the drill bit) being mounted to the shank, wherein each portion has at least one complementary electrical contact for electrical communication between the two portions.

21. Regarding claim 40, Hornung et al. discloses wherein either one or both of said at least one complementary contact is resiliently mounted.

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22. Regarding claim 41, Hornung et al. discloses wherein one of the complementary contacts is non-protruding.

23. Regarding claim 43, Hornung et al. discloses wherein the second electrical link comprises a disconnectable physical contact between the spindle and the shank (by removing the drill bit).

24. Claims 48 and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Hornung et al. (U.S. Patent 4,722,021).

25. Regarding claim 48, Hornung et al. discloses a machine comprising a stationary part (part housing motor 5) and a rotatable part 8 continuously rotatable relative to the stationary part, the rotatable part 8 having a coupling receiving area 6 for releasably accepting the coupling of a tool or other accessory (drill bit, not labeled, see figure 1), and comprising a first electrical link (link from motor 5 to bearing 7) between the stationary and rotatable parts and a portion of a second electrical link (link from bearing 7 through the chuck 6 to the cutting tool) at the shank receiving area being in electrical connection with the first link for providing in use a disconnectable electrical link between the rotatable part and the coupling of the tool or other machine accessory, wherein the portion of the second link is in the form of at least one electrical contact.

26. Regarding claim 50, Hornung et al. discloses wherein the second electrical link comprises a disconnectable physical contact between the spindle and the shank (by removing the drill bit).



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27. Claim 51 is rejected under 35 U.S.C. 102(b) as being anticipated by Hornung et al. (U.S. Patent 4,722,021).

28. Regarding claim 51, Hornung et al. discloses a machine tool comprising a stationary part (part housing motor 5) and a spindle 8 rotatable relative to the stationary part, the spindle 8 having a shank receiving area 6 for releasably accepting the shank of a cutter or other machine tool accessory (drill bit, not labeled, see figure 1), and comprising a first electrical link (link from motor 5 to bearing 7) between the stationary part and the spindle, and a portion of a second electrical link (link from bearing 7 through the chuck 6 to the cutting tool) for providing in use a disconnectable electrical link between the spindle and the shank, wherein the portion of the second link is in the form of any electrical link between the shank and the spindle.

***Claim Rejections - 35 USC § 103***

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

30. Claims 29, 30, and 44-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung et al. '021.

31. Regarding claims 29, 30, 44, and 45, Hornung et al. discloses wherein the receiving area is in the form of a chuck cavity having an opening and a rear area furthest from the opening. Hornung et al. does not disclose wherein the portion of the

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second link is disposed closer to the rear area than to the opening or wherein the portion of the second link is disposed at the rear third of the cavity. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have moved the tool shank closer to the rear area for the purpose of design choice, since it has been held that rearranging parts of an invention involves only routine skill in the art.

32. Regarding claims 46 and 47, Hornung et al. discloses the invention substantially as claimed, except Hornung et al. does not disclose wherein alternating current passes through the first and second links at a frequency greater than approximately 20KHz or wherein the frequency is approximately 100 KHz. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have chosen any frequency of current desired for the purpose of operating at the optimum frequency, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

#### ***Allowable Subject Matter***

33. Claims 26, 31, 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

34. Applicant's arguments, see pages 8-14, filed 10 April 2007, with respect to the rejection(s) of claims 23, 24, 27, 28, 31-43 and 48-51 under 35 U.S.C 102 and claims 26, 29, 30, and 44-47 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hornung et al. and Noda.

35. For the reasons as set forth above, the rejections are maintained.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric A. Gates whose telephone number is 571-272-5498. The examiner can normally be reached on Monday-Thursday 7:45-6:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Carter can be reached on 571-272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



EAG

1 August 2007

  
MONICA CARTER  
SUPERVISORY PATENT EXAMINER